



**UNITED STATES DEPARTMENT OF
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Em
**DEPARTMENT OF
COMMERCE**

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

08/941,132 09/30/97 TANAKA

Y 0649-SP0619P

EXAMINER

15M1/0205

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH VA 22040-0747

ZITOMER, F

ART UNIT

PAPER NUMBER

1505

DATE MAILED:

02/05/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/941,132

Applicant(s)
Tanaka et al.

Examiner
Fred Zitomer

Group Art Unit
1505



☒ Responsive to communication(s) filed on Sep 30, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-3 and 7-10 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-3 and 7-10 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 1505

1.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2.

Claims 1-3 and 7-10 are rejected under 35 U.S.C. § 103 as being unpatentable over Tanaka et al., EP-A- O 584 597 taken with Kondo et al., U.S. Patent 4,208,490, and Burlett et al., U.S. 5,118,546, or Hayashi et al., U.S. 4,528,340.

The claimed invention relates to natural rubber which has been deproteinized and then modified by grafting and epoxidation. All of the procedures are generally known in the art and their present coupling is deemed obvious for the additive effect. More directly, Tanaka teaches deproteinizing natural rubber to nitrogen levels below 0.02% by weight to remove allergens and enhance physical properties [Table 1, Example 1, claim 2, page 2, line 52 - page 3, line 11]. Kondo teaches enhancing the physical properties and appearance of natural rubber by grafting with methylmethacrylate [column 2, line 61 - column 3, line 49; column 4, lines 24-28]. There is no limitation on the proportion of rubber to grafted monomer, however, a ~~30-60~~ % range of 38 rubber content by weight is preferred [column 3, lines 30-34] which appears to fall within the present graft ratio range of 26.5-36.7. It is generally known in the art to epoxidize rubber to enhance properties such as hydrophilicity. Hayashi e.g. teaches epoxidizing rubber in the range of 5-60% [column 3, lines 3-25] while Burlett teaches epoxidizing rubber in the range of 15-85% [column 2, lines 5-17]. It would have been *prima facie* obvious to deproteinize, graft and

Art Unit: 1505


epoxidize rubber for the additive effect, i.e. in the expectation of reducing allergens and enhancing physical properties, because each embodiment and the advantages thereof was known at the time the instant invention was made.

3.

Applicant's arguments with respect to claims 1-3 and 7-10 have been considered but are moot in view of the new ground of rejection.

4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Zitomer whose telephone number is (703) 308-2461.


FRED ZITOMER
PRIMARY EXAMINER
GROUP 1500

Zitomer/fz
February 2, 1998